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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/642,594

08/19/2003

Nobuyasu Kanekawa

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06/12/2006

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EXAMINER

DICKEY, THOMAS L

ART UNIT

PAPER NUMBER

2826

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n N .

10/642,594

Applicant(s)

KANEKAWA ET AL.

Examiner

Thomas L. Dickey

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 15-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15 and 19 is/are rejected.
- 7) ☒ Claim(s) 16-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

  
**Minhloan Tran**  
**Primary Examiner**  
**Art Unit 2826**

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/943,384.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## **DETAILED ACTION**

1. On 5/16/06 Applicants argued, "The above-identified application has been finally rejected under 35 USC 102[e] as anticipated by Takagi US patent 6,130,458, [in view of] Ouchi et al., JP patent 11136293.... In order to advance prosecution of this application, applicants have amended independent claim 15 whose entrance is respectfully requested in light of the incorrect statement of the final rejection." Applicants' request is granted. The finality of the 12/16/05 rejection is withdrawn. Applicant's amended claims filed 5/16/06 are entered. A new Final Rejection, citing new art, has been made in order to reject the 5/16/06 claims.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 15 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by EMORI ET AL. (2001/0011881).

Emori et al. discloses a semiconductor device with an embedded insulation layer 1001 formed in a semiconductor substrate 901; a plurality of power semiconductor transistors 505 formed on said semiconductor substrate 901; a trench 902 isolating between said plurality of power semiconductor transistors 505 formed on said semiconductor substrate 901 on said embedded insulation layer 1001, whereby said plurality of power semiconductor transistors 505 are individually isolated from each other and isolated from any other (the "any other," in this case, being additional power semiconductor transistors 505 indicated by the repeating marks in figure 11. Note, paragraph 0101, that the unit cells shown in figure 11 are repeated 4 or 8 times); an isolator 103 insulating and driving control electrodes (not marked with a part #, seen adjacent to the node between drive circuit 701 and power transistor 505) of a pair of power semiconductor transistors 505 and including capacitive coupling (note paragraph 0036) provided for transmitting signals between said plurality of semiconductor transistors; wherein at least two (and in fact all) of said plurality of power semiconductor transistors 505 are each connected to each other in series; and a drive circuit 701. Note figures 10-14 and paragraphs 0033-0036 and 0099-0115 of Emori et al.

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The applicant's claims 15 and 19 do not distinguish over the Emori et al. reference regardless of the functions allegedly performed by the claimed device, because only the device per se is relevant, not the function recited in claim 15 of driving a control electrode of each of said power semiconductor transistors to suppress driving current supplied to one of said at least two power semiconductor transistors when over current is detected in current flowing in at least another one of said at least two power semiconductor transistors connected in series, nor the function recited in claim 19 of turning on the at least two power semiconductor transistors simultaneously.

Note that functional language in a device claim is directed to the device per se, no matter which of the device's functions is referred to in the claim. See *In re Ludtke and Sloan*, 169 USPQ 563 at 567, and *In re Swinehart*, 169 USPQ 226, both of which make it clear that it is the patentability of the device per se which must be determined in a "functional language" claim and not the patentability of the function, and that an old or obvious device alleged to perform a new function is not patentable as a device, whether claimed in "functional language" claims or not. Note that in such cases applicant has the burden of showing that a prior art device that appears reasonably capable of performing the allegedly novel function is in fact incapable of doing so, as the above caselaw makes clear. See MPEP § 2114. See *In re Schreiber*, 44 USPQ2d 1429, 1432 (Fed. Cir.

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1997) (Spout having "taper ... such as to by itself jam up the popped popcorn before the end of the cone and permit the dispensing of only a few kernels at a shake" anticipated by an oil can spout having the same shape as spout Applicant disclosed as being adapted for dispensing said "only a few kernels" at said "shake") for a discussion of the roles of examiner and applicant in determining when and how functional limitations distinguish a claim from prior art disclosing the same structure. See also *In re King*, 231 USPQ 136 (Fed. Cir, 1986) ("It did not suffice merely to assert that Donley [the cited prior art] does not inherently achieve enhanced color through interference effects [the claimed function], challenging the PTO to prove the contrary by experiment or otherwise. The PTO is not equipped to perform such tasks.")

Paragraph 0034 of Emori et al. discloses current detecting means 108 to measure and detect current. At time of detection, current detecting means 108 are informed to a microprocessor 105, etc. through a communication interface and a communication port 107, and arguably may turn off the transistors 505 by linkage 701. This is the same circuitry as the drive circuit Applicants disclose (the only enabling disclosure of such a circuit, incidentally) at page 28 lines 1-14 of the instant application. Because the disclosed circuits have the same structure, it is reasonable to assume that they are both capable of the claimed functions of driving a control electrode of each of said power semicon-

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ductor transistors to suppress driving current supplied to one of said at least two power semiconductor transistors when over current is detected in current flowing in at least another one of said at least two power semiconductor transistors connected in series, and of turning on the at least two power semiconductor transistors simultaneously. Because it is reasonable to assume that the prior art circuitry performs the same function as the function Applicant claims for essentially the same circuitry, the burden "shifts to appellant to 'prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.'" *King*, 231 USPQ, at 138 (quoting *Swinehart*, 169 USPQ, at 229).

***Claim Rejections - 35 USC § 103***

3. The record indicates that the patent application of EMORI ET AL. 2001/0011881 was assigned to HITACHI, LTD on 1/18/01. The record further indicates that the parent to the instant application, US Serial No. 09/943,384, was assigned to HITACHI, LTD on 7/20/01. Thus it appears that on 8/31/01 (the constructive invention date of the claimed invention), the claimed invention was owned by the same person or subject to an obligation of assignment to the same person (HITACHI, LTD) as the owner of EMORI ET

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AL. 2001/0011881. For this reason EMORI ET AL. 2001/0011881 is unavailable as a 35 USC § 103 reference.

***Allowable Subject Matter***

4. Claims 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

5. Applicant's arguments with respect to claims 15 and 19 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within



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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas L. Dickey whose telephone number is 571-272-1913. The examiner can normally be reached on Monday-Thursday 8-6.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas L. Dickey whose telephone number is 571-272-1913. The examiner can normally be reached on Monday-Thursday 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information

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for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**TLD**  
**06/06**